

PCT INTERNATIONAL COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

GERVASI, Gemma
Notarbartolo & Gervasi S.p.A.
Corso di Porta Vittoria, 9
I-20122 Milan
ITALIE

Date of mailing (day/month/year) 23 February 2001 (23.02.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 1918PTWO	
International application No. PCT/EP00/03586	International filing date (day/month/year) 20 April 2000 (20.04.00)

1. The following indications appeared on record concerning:

☒ the applicant

 ☐ the inventor

 ☐ the agent

 ☐ the common representative

Name and Address

ECOSER S.R.L.
Via Casatenovo Residence
I-20050 Correzzana
Italy

State of Nationality

IT

State of Residence

IT

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒ the person

 ☐ the name

 ☐ the address

 ☐ the nationality

 ☐ the residence

Name and Address

TONER ENTERPRISE INC.
Kierchstrasse 1
FL-9490 Vaduz
Liechtenstein

State of Nationality

LI

State of Residence

LI

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

R. Raissi

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 18 January 2001 (18.01.01)	
International application No. PCT/EP00/03586	Applicant's or agent's file reference 1918PTWO
International filing date (day/month/year) 20 April 2000 (20.04.00)	Priority date (day/month/year) 22 April 1999 (22.04.99)
Applicant GRABITZ, Ernst, Bernhard	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

21 November 2000 (21.11.00)

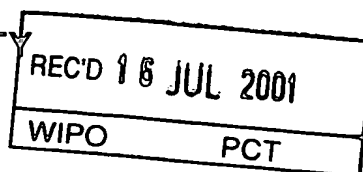
☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1918PTWO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/03586	International filing date (day/month/year) 20/04/2000	Priority date (day/month/year) 22/04/1999
International Patent Classification (IPC) or national classification and IPC A61K9/50		
Applicant TONER ENTERPRISE INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21/11/2000	Date of completion of this report 12.07.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Merkl, B Telephone No. +49 89 2399 2138

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/03586

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-50 as originally filed

Claims, No.:

1-24 as received on 27/04/2001 with letter of 27/04/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☒ the claims, Nos.: 25
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/03586

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-24
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-24
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-24
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/03586

Item V:

- D1: EP-A-0 904 701 (DOX AL ITALIA SPA) 31 March 1999 (1999-03-31)
D2: EP-A-0 899 326 (DOX AL ITALIA SPA) 3 March 1999 (1999-03-03) cited in the application
D3: FR-A-2 324 312 (TOPFER GMBH) 15 April 1977 (1977-04-15)
D4: WO 94 22572 A (BRITISH TEXTILE TECH ;SAGAR BRIAN FREDERICK (GB); SAGAR ANTHONY JO) 13 October 1994 (1994-10-13)
D5: EP-A-0 094 979 (UNIVERSAL FOODS CORP) 30 November 1983 (1983-11-30)

None of the documents cited in the international search report discloses inactivated microorganisms comprising one of the specific active agents defined in claim 1 of the application. Therefore the requirements for novelty (Art. 33(2) PCT) are met.

The problem of the present application was to provide a device for the oral administration of drugs wherein their efficacy is maintained, especially wherein thermostability during the preparation is improved. D1 and D2 solve different problems. D1 does not deal with thermostability and D2 achieves better bioavailability of food by improvement of digestive processes. Therefore the requirements of inventive step (Art. 33(3) PCT) are met.

Item VII:

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D5 is not mentioned in the description, nor are these documents identified therein.

The description has not been adapted to the amended claims.

The disclaimer in claim 1 has to read "nor digestive enzymes" in order to comply with Art. 34 PCT.

CLAIMS

- 1 1. Inactivated microorganism containing one or more soluble and/or solubilizable
2 substances having pharmacological activity and/or nutritional substances having
3 pharmacological activity.
- 1 2. Microorganism according to Claim 1, characterized in that said microorganism is
2 *Saccharomyces cerevisiae*.
- 1 3. Microorganism according to Claims 1-2, characterized in that said soluble
2 and/or solubilizable substance having pharmacological activity is oxytetracycline.
- 1 4. Microorganism according to Claims 1-2, characterized in that said soluble
2 and/or solubilizable substance having pharmacological activity is sodium
3 sulphadimethoxine.
- 1 5. Microorganism according to Claims 1-2, characterized in that said soluble
2 and/or solubilizable substance having pharmacological activity is a vaccine.
- 1 6. Microorganism according to Claims 1-2, characterized in that said nutritional
2 substance having pharmacological activity is ascorbic acid.
- 1 7. Microorganism according to Claims 1-2, characterized in that said nutritional
2 substance having pharmacological activity is selected among: cyanocobalamin
3 (vitamin B12), folic acid, thiamine (Vitamin B1), α -tocopherol, zinc and cobalt.
- 1 8. Microorganism containing one or more soluble and/or solubilizable substances
2 having pharmacological activity and/or nutritional substances having
3 pharmacological activity, according to Claims 3-7.
- 1 9. Microorganism according to Claims 1-7, containing nutritional substances
2 having pharmacological activity as components of any food, feeding or beverage
3 for human or animal use.
- 1 10. Microorganism according to Claim 9, where said feeding is specific for fish.
- 1 11. Microorganism according to Claim 10, where said feeding is specific for the
2 early stages of growth of fish.
- 1 12. Microorganism according to Claims 10-11, wherein said nutritional substance
2 is ascorbic acid.
- 1 13. Food composition comprising one or more inactivated microorganisms
2 according to Claims 1-12.
- 1 14. Use of one or more inactivated microorganisms according to Claims 1-12, in

2 human or animal alimentation.

1 15. Use of the microorganisms according to Claims 1-12, as components of
2 feeding or premixes in zootechnics.

1 16. Use of the microorganisms according to Claims 10-12 for the feeding of fish.

1 17. Process for the preparation of inactivated microorganisms containing one or
2 more soluble and/or solubilizable substances having pharmacological activity
3 and/or nutritional substances having pharmacological activity, according to Claims
4 1-12, comprising the following steps:

5 i) drawing out the endocellular mass of a suitable microorganism by means of
6 hypertonic treatment, separation of the drawn out endocellular mass and recovery
7 of the empty microorganisms;

8 ii) optional inactivation of the microorganism obtained in Step i) chemically or
9 physically, leaving the external membrane of the microorganism unaltered; and

10 iii) intracellular loading of one or more soluble and/or solubilizable substances
11 having pharmacological activity and/or nutritional substances having
12 pharmacological activity, into the inactivated microorganism obtained in Step i) or
13 Step ii), is obtained by means of hypo- and/or iso-tonic treatment.

1 18. Process for the preparation of inactivated microorganisms according to Claim
2 17, characterized in that:

3 in Step i) the drawing out of the endocellular mass is obtained by incubation in
4 a hypertonic solution of the same pharmacologically active substance to be loaded
5 into the microorganism;

6 in Step iii) said pharmacologically active substance is already present in the
7 solution and is loaded into the microorganism with a change of the osmolarity due
8 to dilution of the solution to hypo- and/or isotonicity.

1 19. Process according to Claims 17 and 18, characterized in that Step iii) is
2 followed by treatment of the microorganisms with a fixative or a disinfectant agent

1 20. Process for the preparation of inactivated microorganisms described in Claims
2 1-12, according to the following steps:

3 1) the microorganism is inactivated by thermal treatment, at 60-65°C for 30-120
4 min;

5 2) the inactivated cells of the microorganism are resuspended in an isotonic

6 medium comprising the active principle to be incorporated;

7 3) the suspension is left under stirring for 48-72 hours;

8 4) the suspension is centrifuged;

9 5) optional buffering and/or fixation is carried out using formalin and/or
10 glutaraldehyde.

1 21. Process according to Claims 17 and 18, characterized in that the hypertonic
2 treatment in step i) is obtained by incubation of a hypertonic solution comprising:

3 - NaCl in concentrations higher than 0.2 M;

4 - optionally sodium citrate 0.03 - 0.1 M.

1 22. Process according to Claims 17 and 18, in which said hypotonic treatment in
2 step iii) is obtained by means of a hypotonic solution comprising:

3 - NaCl in concentrations lower than 0.12 M;

4 - optionally sodium citrate in concentrations lower than 0.025 M.

1 23. Process according to Claims 17, in which the isotonic treatment in step iii) is
2 performed by a 0.9% NaCl isotonic solution, optionally comprising sodium citrate
3 0.025 M.

1 24. Process according to Claims 17, in which

2 - said hypertonic solution is NaCl 1.0 M and sodium citrate 0.05 M;

3 - said hypotonic solution is NaCl 0.05 M and sodium citrate 0.005 M

1 25. Process according to Claims 17, in which

2 - said hypertonic solution is NaCl 1.0 M and sodium citrate 0.05 M;

3 - said isotonic solution is NaCl 0.9% and sodium citrate 0.025 M.

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1918PTWO	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/ 03586	International filing date (day/month/year) 20/04/2000	(Earliest) Priority Date (day/month/year) 22/04/1999
Applicant ECOSER S.R.L.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

INACTIVATED MICROORGANISMS COMPRISING SUBSTANCES HAVING PHARMACOLOGICAL ACTIVITY

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawing** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/03586

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K9/50 A23K1/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, FSTA, MEDLINE, CHEM ABS Data, EMBASE, LIFESCIENCES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<input checked="" type="checkbox"/>	<p>EP 0 904 701 A (DOX AL ITALIA SPA) 31 March 1999 (1999-03-31)</p> <p>paragraph '0010! - paragraph '0014! paragraph '0032! - paragraph '0047! example 1 claims 1-3,6,7,13,16,20-22 ---</p>	<p>1,2, 7-11, 13-15, 17,21,22</p>
X	<p>EP 0 899 326 A (DOX AL ITALIA SPA) 3 March 1999 (1999-03-03) cited in the application</p> <p>paragraph '0012! - paragraph '0015! paragraph '0041! - paragraph '0059! paragraph '0065! - paragraph '0066! example 1 claims 1-4,12,16,17,20-23 ---</p> <p style="text-align: center;">-/--</p>	<p>1,2, 9-11, 13-15, 17,21,22</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

16 October 2000

Date of mailing of the international search report

23/10/2000

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Epskamp, S

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/03586

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 324 312 A (TOPFER GMBH) 15 April 1977 (1977-04-15) page 1, line 37 -page 2, line 13 example claims ---	1,9-11, 13,14
X	WO 94 22572 A (BRITISH TEXTILE TECH ;SAGAR BRIAN FREDERICK (GB); SAGAR ANTHONY JO) 13 October 1994 (1994-10-13) page 2, paragraph 1 page 3, paragraph 3 -page 4, paragraph 3 claims 1,8-13 ---	1,2, 9-11, 13-16
X	EP 0 094 979 A (UNIVERSAL FOODS CORP) 30 November 1983 (1983-11-30) page 3, line 25 -page 4, line 29 page 9, line 13 - line 19 example 3 claims 1,10 -----	1,2, 9-11,13, 14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/03586

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0904701	A	31-03-1999	IT 1294369 B	24-03-1999
EP 0899326	A	03-03-1999	IT 1294368 B	24-03-1999
FR 2324312	A	15-04-1977	DE 2541685 A	24-03-1977
			AT 355716 B	25-03-1980
			AT 673176 A	15-08-1979
			BE 846331 A	17-01-1977
			DK 421176 A	19-03-1977
			NL 7610260 A	22-03-1977
WO 9422572	A	13-10-1994	AT 166595 T	15-06-1998
			AU 690103 B	23-04-1998
			AU 6380694 A	24-10-1994
			BG 62640 B	28-04-2000
			BG 100037 A	28-06-1996
			BR 9406239 A	09-01-1996
			CA 2159624 A	13-10-1994
			CZ 9502455 A	17-04-1996
			DE 69410605 D	02-07-1998
			DE 69410605 T	24-09-1998
			DK 691885 T	12-10-1998
			EP 0691885 A	17-01-1996
			ES 2117267 T	01-08-1998
			HU 71909 A,B	28-02-1996
			JP 8508204 T	03-09-1996
			NO 953897 A	29-09-1995
			NZ 263206 A	19-12-1997
			PL 310890 A	08-01-1996
			US 5660769 A	26-08-1997
EP 0094979	A	30-11-1983	AT 21933 T	15-09-1986
			DE 3273000 D	09-10-1986

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 November 2000 (02.11.2000)

PCT

(10) International Publication Number
WO 00/64417 A3

(51) International Patent Classification⁷: A61K 9/50, A23K 1/18

(21) International Application Number: PCT/EP00/03586

(22) International Filing Date: 20 April 2000 (20.04.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI99A000842 22 April 1999 (22.04.1999) IT

(71) Applicant (for all designated States except US): ECOSER S.R.L. [IT/IT]; Via Casatenovo Residence, I-20050 Correzzana (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): GRABITZ, Ernst, Bernhard [DE/IT]; Via S. Eurosia, 22, I-22064 Casatenovo (IT).

(74) Agent: GERVASI, Gemma; Notarbartolo & Gervasi S.p.A., Corso di Porta Vittoria, 9, I-20122 Milan (IT).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

(88) Date of publication of the international search report:
11 January 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INACTIVATED MICROORGANISMS COMPRISING SUBSTANCES HAVING PHARMACOLOGICAL ACTIVITY

(57) Abstract: Inactivated microorganisms are described which comprise agents that are pharmacologically active for human or animal organisms. A process for the preparation of said organisms is further described and their use as medicaments, food integrators or nutritional substances in general, for both human and animal alimentation.

WO 00/64417 A3

INTERNATIONAL SEARCH REPORT

Intern: al Application No

PCT/EP 00/03586

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K9/50 A23K1/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, FSTA, MEDLINE, CHEM ABS Data, EMBASE, LIFESCIENCES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 904 701 A (DOX AL ITALIA SPA) 31 March 1999 (1999-03-31) paragraph '0010! - paragraph '0014! paragraph '0032! - paragraph '0047! example 1 claims 1-3,6,7,13,16,20-22 ---	1,2, 7-11, 13-15, 17,21,22
X	EP 0 899 326 A (DOX AL ITALIA SPA) 3 March 1999 (1999-03-03) cited in the application paragraph '0012! - paragraph '0015! paragraph '0041! - paragraph '0059! paragraph '0065! - paragraph '0066! example 1 claims 1-4,12,16,17,20-23 ---	1,2, 9-11, 13-15, 17,21,22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

16 October 2000

Date of mailing of the international search report

23/10/2000

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/03586

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 324 312 A (TOPFER GMBH) 15 April 1977 (1977-04-15) page 1, line 37 -page 2, line 13 example claims ---	1,9-11, 13,14
X	WO 94 22572 A (BRITISH TEXTILE TECH ;SAGAR BRIAN FREDERICK (GB); SAGAR ANTHONY JO) 13 October 1994 (1994-10-13) page 2, paragraph 1 page 3, paragraph 3 -page 4, paragraph 3 claims 1,8-13 ---	1,2, 9-11, 13-16
X	EP 0 094 979 A (UNIVERSAL FOODS CORP) 30 November 1983 (1983-11-30) page 3, line 25 -page 4, line 29 page 9, line 13 - line 19 example 3 claims 1,10 -----	1,2, 9-11,13, 14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/03586

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0904701	A	31-03-1999	IT 1294369 B	24-03-1999
EP 0899326	A	03-03-1999	IT 1294368 B	24-03-1999
FR 2324312	A	15-04-1977	DE 2541685 A	24-03-1977
			AT 355716 B	25-03-1980
			AT 673176 A	15-08-1979
			BE 846331 A	17-01-1977
			DK 421176 A	19-03-1977
			NL 7610260 A	22-03-1977
WO 9422572	A	13-10-1994	AT 166595 T	15-06-1998
			AU 690103 B	23-04-1998
			AU 6380694 A	24-10-1994
			BG 62640 B	28-04-2000
			BG 100037 A	28-06-1996
			BR 9406239 A	09-01-1996
			CA 2159624 A	13-10-1994
			CZ 9502455 A	17-04-1996
			DE 69410605 D	02-07-1998
			DE 69410605 T	24-09-1998
			DK 691885 T	12-10-1998
			EP 0691885 A	17-01-1996
			ES 2117267 T	01-08-1998
			HU 71909 A, B	28-02-1996
			JP 8508204 T	03-09-1996
			NO 953897 A	29-09-1995
			NZ 263206 A	19-12-1997
			PL 310890 A	08-01-1996
			US 5660769 A	26-08-1997
EP 0094979	A	30-11-1983	AT 21933 T	15-09-1986
			DE 3273000 D	09-10-1986